

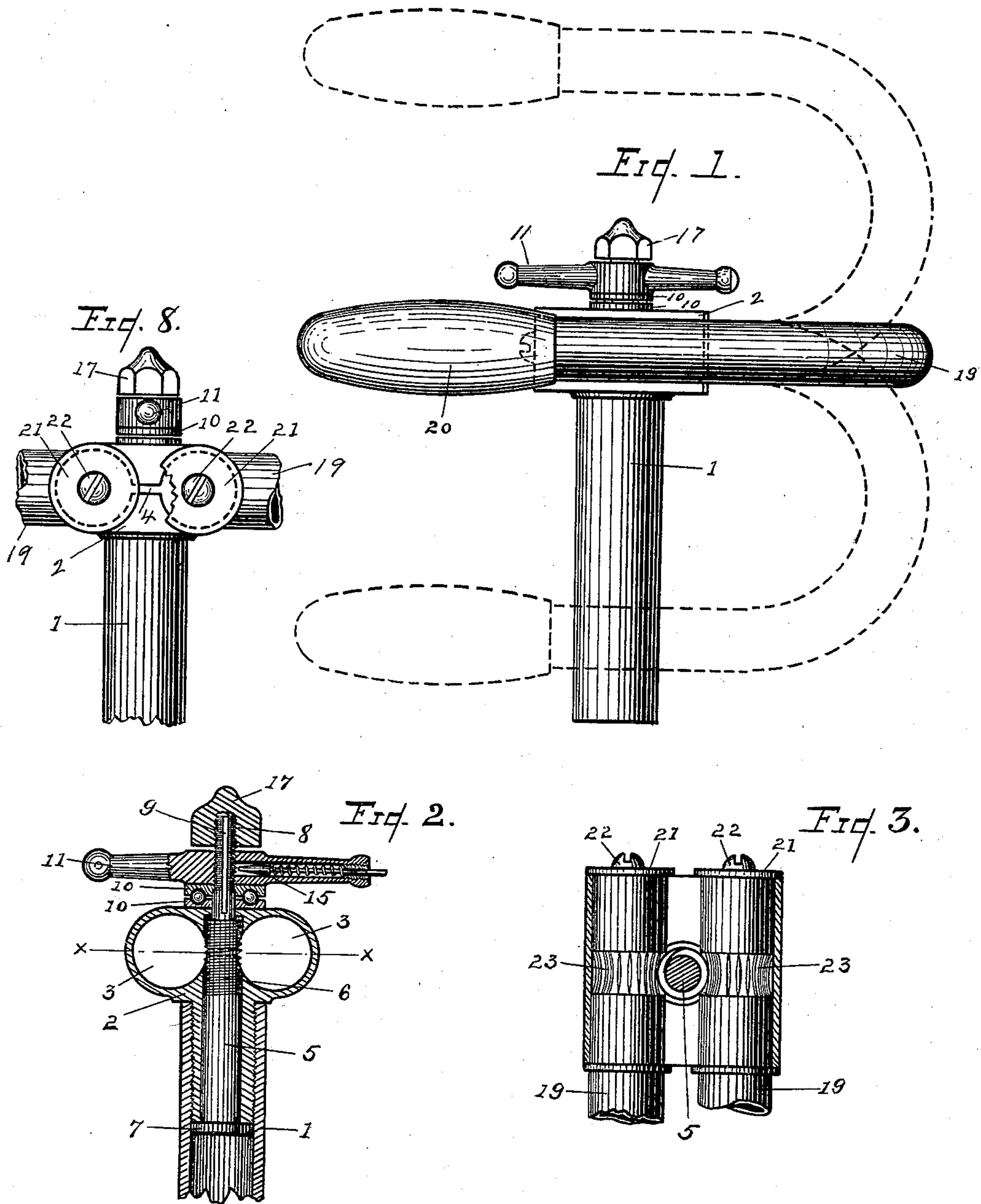
(No Model.)

2 Sheets—Sheet 1.

G. M. BEARD.  
ADJUSTABLE HANDLE BAR FOR BICYCLES.

No. 601,624.

Patented Apr. 5, 1898.



WITNESSES:

W. Webster Schlater  
Minnie E. Schlater

George M. Beard INVENTOR

BY Chapin & Denny  
his ATTORNEYS.

(No Model.)

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Fig. 6.

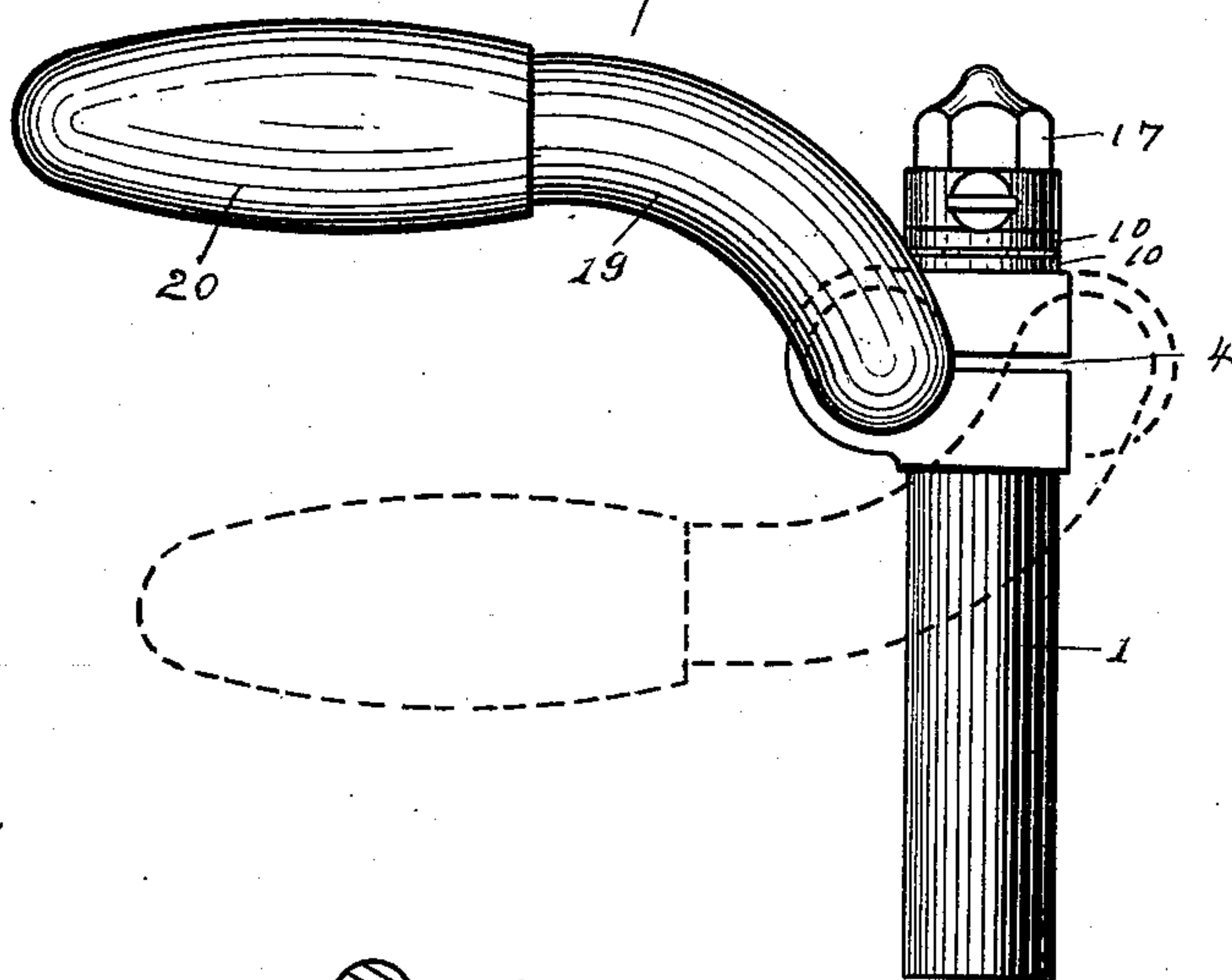


Fig. 7.

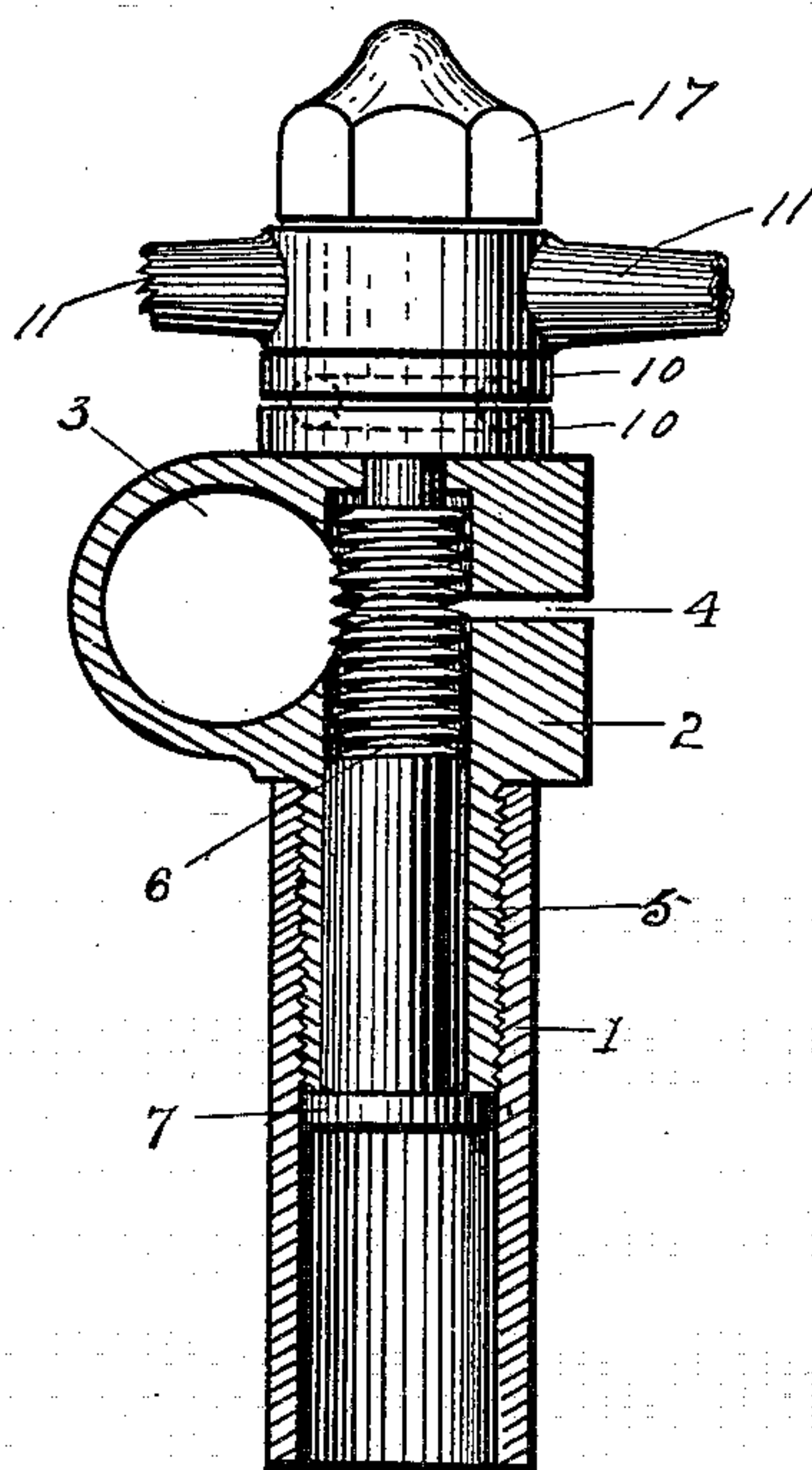


Fig. 4.

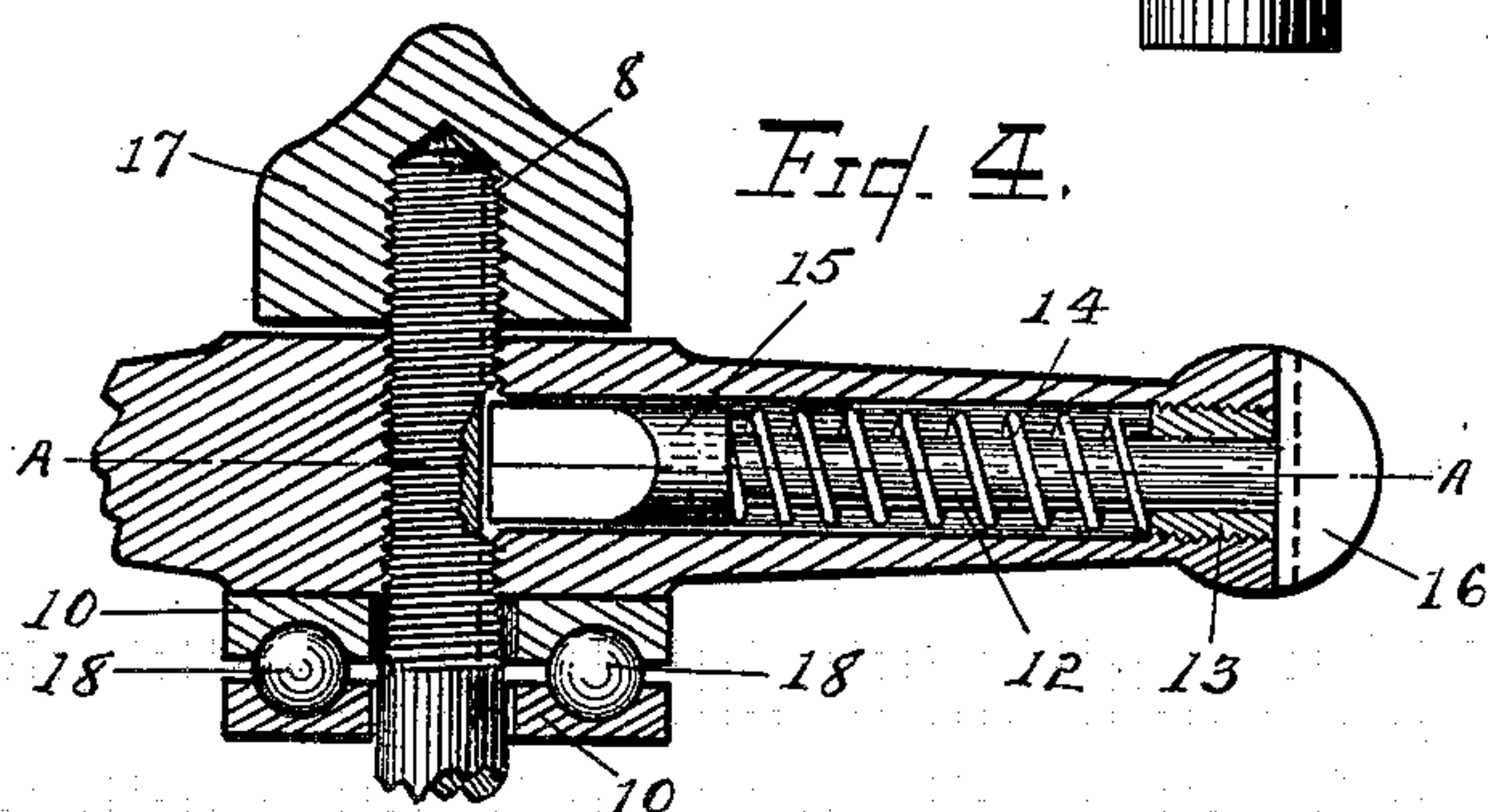
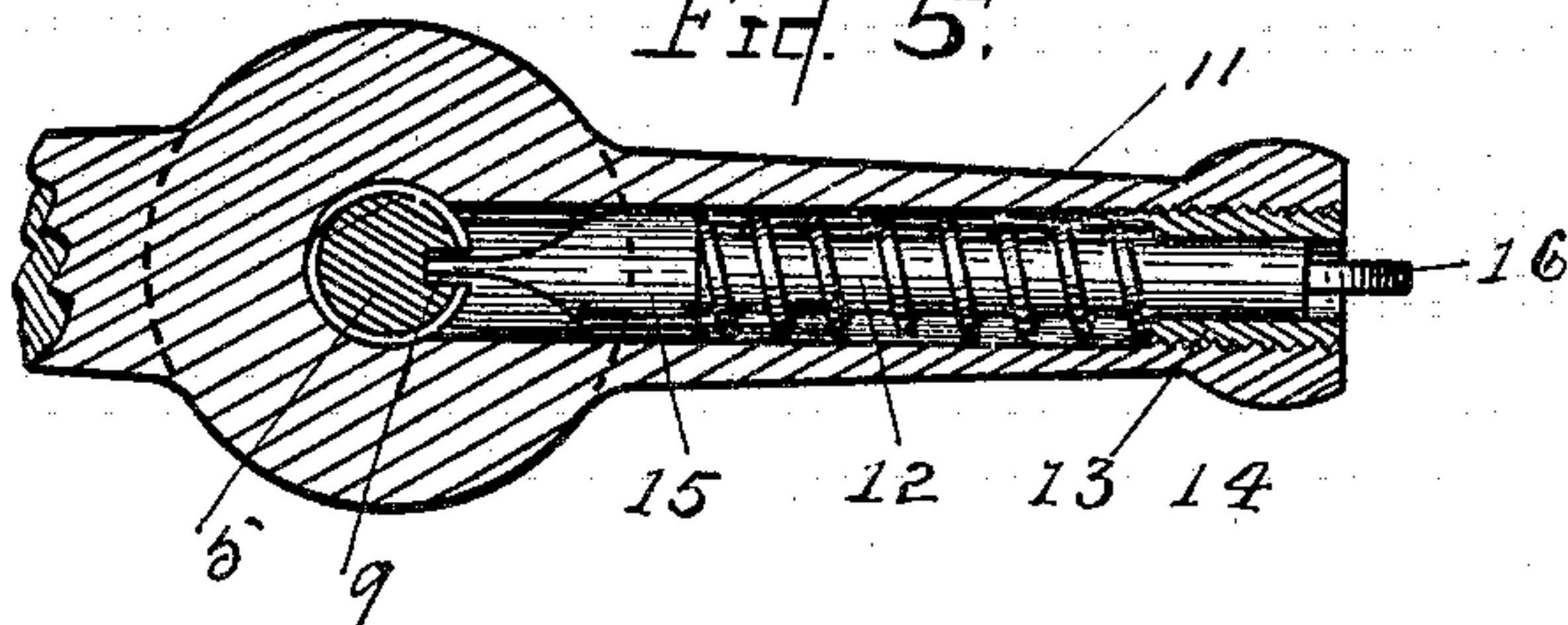


Fig. 5.



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George M. Beard INVENTOR

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ATTORNEYS.



# UNITED STATES PATENT OFFICE.

GEORGE M. BEARD, OF ANGOLA, INDIANA.

## ADJUSTABLE HANDLE-BAR FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 601,624, dated April 5, 1898.

Application filed October 24, 1896. Serial No. 609,944. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE M. BEARD, a citizen of the United States, residing at Angola, in the county of Steuben, in the State of Indiana, have invented certain new and useful Improvements in Adjustable Handle-Bars for Bicycles; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in adjustable handle-bars for bicycles.

The object of my invention is to provide an improved two-part handle-bar simple and substantial in construction, efficient in operation, and so arranged that the steering-handles are adapted for a simultaneous vertical adjustment by means of a hand-lever, whereby the handle-bars can quickly and conveniently be adjusted to either a horizontal, a drop, or a raised position by the rider without dismounting or impeding the speed of the bicycle and without the use of a wrench or other tool, the said handle-bar sections being so arranged as to take up all wear and slack and being adapted to be folded to nearly vertical position to economize space for storage.

My invention comprises a two-part handle-bar whose sections are rotatably mounted in a containing-head detachably mounted in a supporting-post, a vertically-arranged and longitudinally-slotted screw removably mounted in said head and adapted to engage the said handle-bar sections by a screw-threaded connection, and an operating hand-lever mounted on said screw by a screw-threaded connection and containing in one end thereof a spring-pressed catch or bolt adapted to holdingly engage said screw, whereby the said handle-bar sections can be vertically and simultaneously adjusted by the rotation of said lever.

The novel feature of my invention consists in the means for simultaneously adjusting the handle-bar sections without the use of a wrench or other tool.

Similar reference-numerals in the accompanying drawings indicate similar parts throughout the several views, in which—

Figure 1 is a side elevation of my improvement, showing by dotted outline the range of vertical adjustment of the handle-bar sections. Fig. 2 is a front view of the same, partly in vertical section and with the handle-bar sections removed to show the general arrangement of the operative parts. Fig. 3 is a sectional plan on the line *xx* of Fig. 2 with the handle-bar broken away, showing the manner in which the adjusting-screw engages the said handle-bar sections. Fig. 4 is an enlarged detail of the spring-actuated catch in position in the operating hand-lever in vertical section. Fig. 5 is a plan view of the same with the containing portion of the hand-lever in horizontal section on the line *AA* of Fig. 4. Fig. 6 is a view in elevation of a modification of my improvement where a one-piece handle-bar is employed. Fig. 7 is another view of the same, partly in vertical section and with the handle-bar removed. Fig. 8 is a front view of the upper portion of the handle-bar-supporting head for the two-part handle-bar, showing the central slit or slot therein to admit of clamping said handle-bar sections in their sockets.

All parts of my improvement are made of suitable metal.

The tubular handle-bar post 1, of proper dimensions and adapted to be detachably secured in the steering-fork in the usual or other proper manner, has its upper end internally screw-threaded and is provided with a head 2, removably mounted therein by means of a screw-threaded stem, as seen in Fig. 2. The said head 2, rectangular in outline, Fig. 3, has two parallel horizontal circular openings 3, adapted to receive and secure the inner ends of the handle-bar sections and has a vertical central perforation extending throughout its length, in which perforation the adjusting-screw 5 is rotatably mounted. The said perforation, near its upper end, communicates with the said adjacent openings 3. The central portion of said head 2 is provided with a horizontal slit or slot 4, by means of which the said handle-bar sections can be rigidly clamped in said openings 3.

The adjusting-screw 5 has its screw-threaded portion arranged intermediate said openings 3 and is adapted for an actuating engagement with a correspondingly screw-threaded



portion on said handle-bar sections herein-  
after described. The said screw 5 also has a  
reduced screw-threaded portion or stem 8,  
having a longitudinal slot 9 to receive the  
5 spring-pressed bolt or catch 12. The lower  
end of the said screw is provided with a ter-  
minal annular flange 7, adapted to form a  
bearing on the lower end of the said pendent  
stem of the head 2 to prevent longitudinal de-  
10 rangement of said screw in an upwardly direc-  
tion. On the said screw 5 are loosely mount-  
ed the clamping-plates 10, having a plurality  
of balls 18 so arranged between them as to  
form a ball-bearing to lessen the friction in-  
15 cident to the operation of the hand-lever. It  
is obvious that the said plates 10 and balls 18  
may be omitted, though their use, if preferred,  
for the purpose of lessening the friction be-  
tween the gripping-faces of the hand-lever  
20 and the head 2 when locking and unlocking  
the handle-bar sections. Immediately above  
the said plates and by a screw-threaded con-  
nection with said stem 8 is revolubly mounted  
the hand-lever 11, having one end thereof  
25 centrally apertured for the bolt or catch 12,  
which under spring tension is adapted to en-  
gage the said slot 9 of the said stem. In the  
outer end of said bolt-aperture is secured, by  
a screw-threaded connection, the sleeve 13, in  
30 which the said bolt is loosely mounted.

The bolt 12 has upon its inner end a head  
15, adapted to engage the said slot 9 when  
placed in one position to prevent the rotation  
of said hand-lever relatively to said screw 5,  
35 Figs. 4 and 5, and is adapted to permit free  
rotation of said lever when disengaged from  
said slot. Between the said head 15 and the  
said sleeve 13 the coil-spring, of proper  
strength and tension, is loosely mounted on  
40 said bolt. The outer end of said bolt 12 has  
a thumb-screw handle 16, by means of which  
the bolt can be withdrawn from its engage-  
ment with the slot 9 and rotated in its bear-  
ings. The outer end of the tubular portion of  
45 said lever 11 has a vertical slot, or, rather,  
two coincident radial slots, adapted to receive  
and secure said handle 16 when the said bolt  
12 is engaged with said slot 9. Upon the  
upper end of the said screw-threaded stem  
50 8 is mounted a proper screw-threaded cap  
17, Figs. 2, 4, and 6, so arranged as to leave  
a small amount of play between the said cap  
and said hand-lever 11, but not enough space  
to prevent any displacement of said balls.  
55 The said hand-bar sections 19, having any de-  
sired curvature and of any proper material,  
have their inner ends rotatably mounted in  
the said openings 3 of the head 2 and are  
secured therein by proper washers 21 on  
60 the rear face of said head and the holding-  
screws 22, Fig. 3. The inner ends of the said  
handle-bar sections 19 are also provided with  
opposite and coincident concave annular  
faces 23, having transverse threads cut there-  
65 on, Fig. 2, adapted to engage the threaded  
portion 6 of said screw 5, whereby rotating  
said screw 5 will simultaneously rotate the

said handle-bar sections, but in opposite di-  
rections. The said sections 19 have remov-  
ably fixed upon their free ends any proper 70  
handles 20.

A modified form of my invention is shown  
in Figs. 6 and 7, in which the handle-bar is  
in one piece, and consequently one of the said  
openings in the head 2 is omitted. In this 75  
modification the one-piece handle-bar has an  
annular concave face 23 midway its ends, hav-  
ing transverse threads thereon, as above de-  
scribed, adapted for an actuating engagement  
with the said screw 5, whereby the handle-bar 80  
can be rotated in said opening 3 into any de-  
sired adjustment throughout the range of a  
complete circle by means of the lever 11 in  
the manner about to be described.

The operation of my invention thus de- 85  
scribed is, briefly stated, as follows: To adjust  
my two-part handle-bar from a horizontal po-  
sition to a lower or drop position, as shown in  
dotted outline in Fig. 1, the operator with-  
draws the spring-pressed bolt 12 from its en- 90  
gagement with the said slot 9 and gives the  
same a quarter-turn, thus permitting the free  
rotation of said hand-lever 11 on the screw 5.  
He then rotates the lever 11 to the left suffi-  
ciently to relieve it from the binding pressure 95  
of said plates 10 and again places said bolt  
12 in engagement with said slot 9, whereby  
the hand-lever and said screw 5 can be rota-  
ted together in either direction. Therefore  
rotating the screw 5 in one direction will 100  
lower the said handle-bar sections simultane-  
ously and rotating them in the opposite di-  
rection will raise them because of the actu-  
ating engagement of said screw 5 with the an-  
nular screw-threaded faces 23 of said sec- 105  
tions. As the faces 23 are annular the range  
of adjustment of each of said sections is nearly  
a half-circle. After the said handle-bar sec-  
tions have been given the desired adjustment  
the operator disengages the said bolt 12 from 110  
said slot 9 and gives it a quarter-turn, after  
which the engaging end of the head 15 will  
pass readily over the threads of said screw.  
He thus rotates the said lever on said screw  
in such direction as will spring or compress 115  
the slitted head 2 sufficiently to rigidly clamp  
and secure the said handle-bar sections in  
said position, after which it is immaterial  
whether or not the said bolt 12 is placed in  
engagement with said slot 9. It is obvious 120  
that the rider can readily make any desired  
adjustment of said handle-bar sections with-  
out the use of a wrench or other tool and  
without slackening the speed of his vehicle.  
This feature is of great practical utility, as a 125  
rider on approaching the ascent of a hill can  
quickly adjust his handle-bar to a drop posi-  
tion to give better leverage and ease of ascent  
and conveniently readjust it for a level sur-  
face when desired. 130

The operation of the modified form of my  
invention when a one-piece handle-bar is em-  
ployed is as follows: The construction, ar-  
rangement, and manner of operation of the



said hand-lever 11 and the screw 5 are in all respects identical with that above described. As the said one-piece handle-bar has an annular screw-threaded surface midway its ends adapted for an actuating engagement with the said screw 5, it is obvious the handle can be rotated in its bearing in either direction by the rotation of said screw 5 by means of the said lever 11. Therefore when the operator desires to adjust the handle-bar from the raised position shown in Fig. 6 to the drop position shown in dotted outline he simply rotates said handle one-half way around, so that the handles will point forwardly, and then rotates the said post 1 in the usual manner in the steering-fork. This adjustment, however, is not designed to be made while the vehicle is in motion.

Having thus described my invention and the manner of employing the same, what I desire to secure by Letters Patent is—

1. The combination in a two-part handle-bar of the post 1; the handle-bar head 2 secured in said post by a tubular screw-threaded stem, and having the circular openings 3 arranged in parallel relation for the purpose described, and having its central portion horizontally slotted to admit of clamping said handle-bar when mounted therein; the handle-bar sections 19 rotatably mounted in said openings 3 and provided upon their inner ends with the opposite and coincident screw-threaded annular faces 23 adapted to engage the adjusting-screw; the vertical adjusting-screw 5 rotatably mounted in said head as shown, between the said handle-bar sections and adapted for an actuating engagement with said faces 23, and provided with a reduced screw-threaded extension 8 having a longitudinal slot 9; and a hand-lever 11 mounted on said extension by a screw-threaded connection and provided with a spring-pressed catch-bolt loosely mounted therein as described and adapted for a holding engagement with said slot 9, all substantially as described.

2. The combination of the head 2 centrally slotted as shown, and provided with handle-bar openings 3 in parallel arrangement and having a vertical central opening for the adjusting-screw; the handle-bar sections pro-

vided upon their inner ends with the annular threaded faces 23 adapted for a simultaneous actuating engagement with the adjusting-screw when rotatably mounted in said openings; the handle-bar-adjusting screw 5 rotatably mounted in said vertical opening and adapted for an actuating engagement with the said handle-bar sections and provided with a screw-threaded stem 8 longitudinally slotted as shown; the plates 10 loosely mounted on said stem and having a plurality of balls 18 arranged as shown, for the purpose specified; and a hand-lever 11 rotatably mounted on said stem by a screw-threaded connection and having a spring-pressed catch 12 arranged therein to holdingly engage said slotted stem for the purpose of rotating the said adjusting-screw 5, and a screw-threaded cap 17 adapted to limit the upward movement of said hand-lever, all substantially as described.

3. The combination of a centrally slitted or slotted handle-bar head 2 having a central vertical perforation for the adjusting-screw, a circular opening 3 for the handle-bar, so arranged as to communicate with said vertical perforation, and having a pendent supporting-stem; a one-piece handle-bar rotatably mounted in said opening and provided midway its ends with an annular concave screw-threaded face 23; the adjusting-screw 5 rotatably mounted in said vertical perforation and adapted to form an actuating engagement with said handle-bar, and provided with a screw-threaded stem 8; the plates 10 mounted on said stem as described for the purpose specified; and a hand-lever 11 rotatably mounted on said stem by a screw-threaded connection, and having a spring-pressed catch 12 arranged therein to holdingly engage said stem for the purpose of rotating the said adjusting-screw 5, and a screw-threaded cap 17 adapted to limit the upward movement of said hand-lever, all substantially as described.

Signed by me at Angola, county of Steuben, State of Indiana, this 19th day of October, A. D. 1896.

GEORGE M. BEARD.

Witnesses:

WM. H. WALLER,  
STEPHUS A. POWERS.